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Current Employment

Research Fellow in National Institute of Mental Health, NIH, MD, USA

2020 – present

Advisor: Dr. Peter Bandettini

Education and Working Experience

Postdoctoral Fellow in National Institute of Mental Health, NIH, MD, USA

2016 – 2020

Advisor: Dr. Peter Bandettini

Ph.D. in Medical Physics, Peking University, Beijing, China

2011 – 2016

Dissertation: MR imaging of oscillatory currents

Advisor: Prof. Jia-Hong Gao

B.S. in Physics, Lanzhou University, Lanzhou, China

2007 – 2011

Publications

1. Y. Chai, T. Liu, S. Marrett, L. Li, A. Khojandi, D. Handwerker, A. Alink, L. Muckli, P. Bandettini. Topographical and Laminar Distribution of Audiovisual Processing within Human Planum Temporale. ***Under Review***.
2. Y. Chai, L. Li, Y. Wang, L. Huber, B. Poser, J. Duyn, P. Bandettini. A magnetization transfer weighted anatomical reference allows laminar analysis in native fMRI space. ***Under Review***.
3. T. Liu, J. Fu, Y. Chai, S. Japee, L. Ungerleider, E. Merriam. Layer-specific modulation in human visual cortex by emotional faces. ***Submitted***.
4. Y. Yu, L. Huber, J. Yang, Y. Chai, D. Jangraw, G. Chen, D. Handwerker, P. Molfese, Y. Ejima, J. Wu, P. Bandettini. Layer-specific activation in human primary somatosensory cortex during tactile temporal prediction error processing. ***Submitted***.
5. L. Huber, E. Finn, Y. Chai, R. Goebel, R. Stirnberg, T. Stöcker, S. Marrett, K. Uludag, S. Kim, S. Han, P. Bandettini, B. Poser. Layer-dependent functional connectivity methods. ***Progress in Neurobiology***. 2020.
6. Y. Chai, L. Li, L. Huber, B. Poser, P. Bandettini. Integrated VASO and perfusion contrast: a new tool for laminar functional MRI. ***NeuroImage***. 207:116358, 2020.
7. Y. Chai, D. Handwerker, S. Marrett, J. Gonzalez-Castillo, E. Merriam, A. Hall, P. Molfese, P. Bandettini. Visual temporal frequency preference shows a distinct cortical architecture using fMRI. ***NeuroImage***. 197: 13-23, 2019.
8. Y. Chai, J. Sheng, P. Bandettini, J. Gao. Frequency-dependent tACS modulation of BOLD signal during rhythmic visual stimulation. ***Hum Brain Mapp***. 00:1-10, 2018.
9. Y. Chai, J. Sheng, B. Wu, J. Gao. MR imaging of oscillatory magnetic field changes: from phantom to human brain. ***Magn Reson Imaging***. 36: 167-174, 2017.

10. Y. Chai, G. Bi, L. Wang, F. Xu, R. Wu, X. Zhou, B. Qiu, H. Lei, Y. Zhang, J. Gao. Direct detection of optogenetically evoked oscillatory neuronal electrical activity in rats using SLOE sequence. *NeuroImage*. 125: 533-543, 2016.
11. X. Jiang, J. Sheng, H. Li, Y. Chai, X. Zhou, B. Wu, X. Guo, J. Gao. Detection of subnanotesla oscillatory magnetic fields using MRI. *Magn Reson Med*. 75: 519-526, 2016.
12. J. Sheng, Y. Liu, Y. Chai, W. Tang, B. Wu, J. Gao. A comprehensive study of sensitivity in measuring oscillatory magnetic fields using rotary saturation pulse sequences. *Magn Reson Imaging*. 34: 326-333, 2016.

Presentations

1. Y. Chai, L. Li, Y. Wang, L. Huber, B. Poser, J. Duyn, P. Bandettini. A magnetization transfer weighted anatomical reference allows laminar analysis in native fMRI space. *ISMRM*, 2020 (Oral Presentation)
2. Y. Chai, L. Li, L. Huber, P. Bandettini. A novel intravascular contrast for laminar functional MRI. *ISMRM*, 2019 (Oral Presentation)
3. Y. Chai, D. Handwerker, S. Marrett, A. Hall, J. Gonzalez-Castillo, P. Molfese, P. Bandettini. Visual temporal frequency preference shows a distinct cortical architecture using fMRI. *ISMRM*, 2018 (Oral Power Pitch Presentation)
4. Y. Chai, D. Handwerker, S. Marrett, A. Hall, J. Gonzalez-Castillo, P. Molfese, P. Bandettini. Functional organization of visual temporal frequency preference revealed by thalamo-visual correlation. *ISMRM*, 2018 (Oral Presentation)
5. Y. Chai, D. Handwerker, J. Gonzalez-Castillo, P. Bandettini. Steady-state visual stimulation frequency modulates functional networks. *SFN*, 2017. (Poster)
6. Y. Chai, J. Sheng, P. Bandettini, J. Gao. Frequency-dependent tACS modulation of BOLD signal during rhythmic visual stimulation. *OHBM*, 2017. (Oral Presentation, Merit Award)
7. Y. Chai, G. Bi, L. Wang, F. Xu, X. Zhou, B. Qiu, H. Lei, B. Wu, Y. Fan, J. Gao. In-vivo detection of neuronal current using spin-lock oscillatory excitation at 7T. *ISMRM*, 2016. (Oral Power Pitch Presentation, Educational Stipend)
8. Y. Chai, J. Sheng, B. Wu, J. Gao. In-vivo detection of oscillatory magnetic field with an oscillatory-selective detection (OSD). *ISMRM*, 2016. (Poster)
9. Y. Chai, G. Bi, L. Wang, F. Xu, X. Zhou, B. Qiu, H. Lei, J. Gao. Direct detecting optogenetically evoked oscillating neural current in rats using SLOE sequence. *OHBM*, 2015. (Oral Presentation, Merit Award)